

AMENDMENTS TO THE CLAIMS

1-9. (Canceled)

10. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system; and

monitoring a condition within the processing system by sensing a change in temperature within a facet of the transfer chamber through which the robot must extend to reach the exchange position;

determining a shift in the exchange position based on the monitored condition; and
correcting motion of the robot to compensate for the shift in the exchange position.

11. (Previously Presented) The method of claim 10, wherein the sensing the change in temperature further comprises:

sensing a change in temperature of a different facet of the transfer chamber.

12. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system;

monitoring a condition within the processing system;

determining a shift in the exchange position based on the monitored condition by sensing a change in position of the at least one processing chamber; and

correcting motion of the robot to compensate for the shift in the exchange position.

13. (Previously Presented) The method of claim 12, wherein the sensing the change in position of the at least one processing chamber further comprises:

sensing a metric indicative of a position of a centerline of the at least one processing chamber.

14. (Previously Presented) The method of claim 12, wherein the sensing the change in position of the at least one processing chamber further comprises:

sensing a metric indicative of a position of a centerline of the transfer chamber.

15-20. (Canceled)

21. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system; and

correcting motion of the robot to compensate for a shift in the exchange position by:

measuring a change in at least one of the position and orientation of the at least one processing chamber relative to the transfer chamber; and

adjusting motion of the robot to compensate for the measured changes.

22. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system; and

correcting motion of the robot to compensate for a shift in the exchange position by:

sensing a change in at least one of the position and orientation of the at least one processing chamber relative to the transfer chamber; and

adjusting motion of the robot to compensate for the sensed changes.

23. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system; and

correcting motion of the robot to compensate for a shift in the exchange position by:

resolving a change in at least one of the position and orientation of the at least one processing chamber relative to the transfer chamber; and

adjusting motion of the robot to compensate for the resolved changes.

24. (Previously Presented) The method of claim 23, wherein the resolving changes further comprises at least one of modeling thermal expansion of the transfer chamber, modeling thermal expansion of the at least one processing chamber, and utilizing empirical data that is representative of relative positions of the at least one processing chamber relative to the transfer chamber due to thermal effects.

25. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system; and

correcting motion of the robot to compensate for a shift in the exchange position due to a change in the thermal profile of the transfer chamber.

26. (Previously Presented) A method for transferring a substrate in a processing system having at least one processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the processing system; and

correcting motion of the robot to compensate for a shift in the exchange position due to a change in the thermal profile of the at least one processing chamber.

27. (Previously Presented) A method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot, the method comprising:

defining an exchange position of the first processing chamber;

sensing temperature of at least one component of the system that results in a shift in the exchange position;

resolving the shift in the exchange position corresponding to the sensed temperature; and

correcting robot motion to compensate for the shift in the exchange position.

28. (Previously Presented) The method of claim 27, wherein the sensing further comprises:

sensing a temperature of at least one facet of the transfer chamber.

29. (Previously Presented) The method of claim 27, wherein the resolving further comprises:

determining a change in at least one of the position and orientation of a facet of the transfer chamber from which the temperature was sensed.

30-34. (Canceled)

35. (Previously Presented) A method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the first processing chamber relative to a predefined reference point within the transfer chamber;

detecting a shift in the exchange position by determining a change in at least one of the position and orientation of a facet of the transfer chamber corresponding to a change in a sensed temperature; and

correcting the taught robot motion to compensate for the shift in the exchange position.

36. (Canceled)

37. (Previously Presented) A method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot, the method comprising:

teaching the robot to move to an exchange position defined in the first processing chamber relative to a predefined reference point within the transfer chamber;

detecting a shift in the exchange position by determining a change in at least one of position and orientation of the first processing chamber; and

correcting the taught robot motion to compensate for the shift in the exchange position.

38-39. (Canceled)

40. (Previously Presented) A method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot, the method comprising:

establishing a predefined reference point within the transfer chamber and an exchange position of the first processing chamber;

teaching the robot to move to the exchange position;

monitoring relative positional change between the reference point and exchange position, wherein the monitoring the relative positional change between the reference point and exchange position further comprises detecting a change in lateral position of a substrate support disposed in the first processing chamber; and

correcting the taught position of the robot in response to the relative positional change, thereby allowing the robot to arrive at the exchange position.

41. (Previously Presented) A method for transferring a substrate in a processing system having at least a first processing chamber coupled to a transfer chamber housing a robot, the method comprising:

- establishing a predefined reference point within the transfer chamber and an exchange position of the first processing chamber;

- teaching the robot to move to the exchange position;

- monitoring relative positional change between the reference point and the exchange position, wherein the monitoring the relative positional change between the reference point and the exchange position further comprises detecting a change in lateral position of the reference point of the transfer chamber due to thermal changes of the transfer chamber; and

- correcting the taught position of the robot in response to the relative positional change, thereby allowing the robot to arrive at the exchange position.

42-46. (Canceled)